The demands of the “information age” have raised new questions for museums. It has been argued that museums need to move from being suppliers of information to providing usable knowledge and tools for visitors to explore their own ideas and reach their own conclusions (Bradburne, 1998; Hein, 1997) because increasing access to technologies, such as the internet, “… have put the power of communication, information gathering, and analysis in the hands of the individuals of the world’ (Freedman, 2000, p.299). Freedman also argued that museums should become mediators of information and knowledge for a range of users to access on their terms, through their own choices, and within their own place and time.

**Informal learning and museums**

Museums are considered to be free-choice, or informal, learning environments (Falk, 2004; Falk & Dierking, 2002; Hein, 1998; Hein & Alexander, 1998). Free-choice learning has been described as ‘… self-directed, voluntary, and guided by individual needs and interests—learning that we will engage in throughout our lives’ (Falk & Dierking, 2002, p.9). Informal learning is different from the formal contexts of school and universities, being described as:

- occurring outside of the formal, structured school or university environment
- a lifelong process, given that humans spend more time outside, than inside, school
- happening across a variety of mediums, such as television, the internet and museums
- linking to formal learning in an unplanned way

Paris (1997) stated that to facilitate meaningful learning museums need to create environments that encourage exploration and enable meaning to be constructed through choice, challenge, control and collaboration, leading to self-discovery, pride in achievements, learning and change.

To date many theories about museum learning have been based within the context of the physical building, exhibitions and programs. However, the above points could just as easily relate to the on-line context in general, and social media in particular. Constructivism, with its emphasis on the individual learner, as well as choice, control, challenge and social learning is an approach used by many museums as basis for their thinking about learning. George Hein in his seminal work, *Learning in Museums*, outlined the characteristics of constructivist exhibitions (Hein, 1998, p.35). When examining these a little more closely it becomes clear that many of the principles of constructivist learning in museum exhibitions correlate very closely to the tools of social media as outlined in Table 1.

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Table 1. Comparison of constructivist exhibitions and social media

<table>
<thead>
<tr>
<th>Constructivist exhibitions</th>
<th>Social media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free choice</td>
<td>Free choice</td>
</tr>
<tr>
<td>Many entry points</td>
<td>Many entry points</td>
</tr>
<tr>
<td>No specific path, no beginning, no end</td>
<td>No specific path, no beginning, no end</td>
</tr>
<tr>
<td>Based on prior knowledge and experience</td>
<td>Based on prior knowledge, experience and interests</td>
</tr>
<tr>
<td>User-controlled</td>
<td>User-controlled</td>
</tr>
<tr>
<td>Usually visited in own time and as part of structured educational experience</td>
<td>Usually visited in own time and place, may be part of structured educational experience as well as leisure</td>
</tr>
<tr>
<td>Present range of points of view and perspectives, museum seen as authority</td>
<td>Present range of points of view and perspectives, yet authority can be questioned or unclear</td>
</tr>
<tr>
<td>Provide materials that allow to experiment, conjecture and draw conclusions</td>
<td>Interactive websites can provide programs and information that allow to experiment, conjecture and draw conclusions</td>
</tr>
<tr>
<td>Used for leisure, entertainment and learning</td>
<td>Used for leisure, entertainment and learning</td>
</tr>
<tr>
<td>May be difficult to remain up-to-date</td>
<td>Usually up-to-date, constantly changes</td>
</tr>
</tbody>
</table>

What do we know about on-line usage?

An on-line survey of 2,006 participants across eastern Australia was undertaken in November 2007 asking about the kinds of on-line activities they had undertaken in the previous month, as well as where they accessed the internet, how comfortable they felt with technology and demographic information (Australian Museum, 2007). They were also asked whether they had visited a museum/gallery in the previous six months, with 41% (n=829) having done so. The data from this group was separated to compare against the rest of the sample to see if there were any differences in their on-line behaviour (Table 2). The data shows that museum/gallery visitors participated at higher levels across all activities. Apart from using social networking sites, statistical tests revealed that these differences were highly significant across all categories.
Table 2. Comparison of museum visitors and total sample

<table>
<thead>
<tr>
<th>Activity</th>
<th>Total sample (n=2,006)</th>
<th>Museum/gallery visitors (n=829)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch a video</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Use social networking site</td>
<td>34%</td>
<td>36%</td>
</tr>
<tr>
<td>Participate in discussion board/forum</td>
<td>32%</td>
<td>39%</td>
</tr>
<tr>
<td>Read customer rating/review</td>
<td>37%</td>
<td>48%</td>
</tr>
<tr>
<td>Read blogs</td>
<td>27%</td>
<td>34%</td>
</tr>
<tr>
<td>Tag web pages</td>
<td>19%</td>
<td>27%</td>
</tr>
<tr>
<td>Listen to podcasts</td>
<td>16%</td>
<td>23%</td>
</tr>
<tr>
<td>Use a wiki</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>Post ratings/reviews</td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>Comment on blogs</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>Upload video/audio they created</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Publish own web page</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>Publish/maintain blog</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Use RSS feeds</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

A Pew Internet study found that ‘... 36% of on-line Americans consult Wikipedia ... [it is] is far more popular among the well-educated than among those with lower levels of education ... 50% of those with at least a college degree consult the site, compared to 22% of those with high school diploma.’ (Pew Internet, 2007). It is worth remembering that the majority of people who visit museums are college-educated or higher.

A one-day workshop was held in November, 2007 with twenty-four students from nine schools across New South Wales (Groundwater-Smith & Kelly, 2007) to look further at some of these findings. Students were consulted on a range of issues encompassing their use of digital technologies in leisure and for learning. They undertook a behind-the-scenes tour of the Museum, spoke with a number of scientific staff and experienced the public areas of the Museum in order to provide feedback about the Museum’s potential on-line offer. An important component of the research was to seek feedback and advice about how the Museum’s research and collection could be better utilised through digital media to match their needs and interests.
The overall impression I had from the day was the overwhelming interest by the students in our content, our staff and the sensory engagement primarily through touch, but also the visual aesthetic. They were also very thoughtful about how the Museum could complement what is already available on-line and carve out its’ own place. One student, Patrick, who had attended both our 2006 Kids’ College and the e-kids’ college in 2007 had this to say:

_Last time I came here [in 2006] we focussed mainly on new technology and we were constantly saying we needed more screens, games and interactive displays, but since then I have been thinking: I can do that at home, I can watch movies, play games etc at home. If I come to the Museum I want to be able to get information, read it and be able to learn from it. It is good to have these things (screens etc) but I guess, like all things, in moderation. The Web site needs to suit all audiences. I got the feeling that you were trying to find out what we want but we are not the only people that use the Museum. A section on the site, with bright colours, games etc could be good, but it is unlikely that the reason we are at a Museum site in the first place is to play the games. We can do that anywhere. If we are there we are probably looking for information of some kind._

These findings have broad implications for museums and their relationships with both their on-line and physical audiences. The data suggests that, not only do those who visit museums (adults and young people) participate in more on-line activities, they are engaging in activities that are participatory and two-way, such as posting and reading customer reviews, reading blogs, listening to podcasts and tagging content. What does this mean for museums? What museum visitors bring increased expectations and different modes of behaviour to their physical visit based on what they are doing on-line?

Research has found that visitors appreciated the role museums could play as authoritative, trusted and credible sources of information, and that they were accessed by a wide range of people (Cameron, 2003, 2006; Ellenbogen, 2002; Falk, Brooks & Amin, 2001; Kelly, 2006; Lake Snell Perry & Associates, 2001). In research conducted looking at controversial topics it was found that visitors welcomed museums having exhibitions and programs on these kinds of topics as long as they could comment on them somehow (Kelly, 2006). At the time that research was undertaken the Internet was in early stages of development, a Web 1.0 environment with a primary focus on access to information (Seely Brown & Adler, 2008). Since that time the Internet has opened up a whole new way of engaging users, with Web 2.0 now giving access to people – where those with common interests can meet, share ideas and collaborate. Seely Brown and Adler feel that the most profound impact of the Internet is ‘… its ability to support and expand the various aspects of social learning” (2008, p.18) and therefore, I suggest, to solve problems together.
Museums and social media

GetUp! (http://getup.org.au/) is a great example of communities working together to solve problems – not only on-line but in face-to-face situations, bringing like-minded people together to work on problems and solutions. For example in December last year over 3,000 people gathered at 300 homes/venues across Australia to develop a people’s agenda for the new Parliament. All responses were collated into one document (informed by an on-line survey completed by more than 32,000 people) which was presented by GetUp! members to their Federal member to take to their first sitting. There was also a campaign by GetUp! on Facebook asking people to change their status to “... is sorry” on 13th February, the day the Federal Government apologised to the Stolen Generation. This Facebook act got wide coverage on commercial radio that morning as a mainstream, legitimate way that people engage with issues and with each other. If a community-based organisation like GetUp! with limited funding can rally this kind of support, why not museums, especially given their status in the community, their content and collections and their trusted authority?

I have recently become more convinced about the strong synergies between the physical and on-line experience. Our work with the Coalition over the years suggests to me that when it comes to designing fantastic physical and on-line museum experiences for young people (and I also think for all kinds of visitors), the principles are the same and include a range of elements:

- **experiences** that encourage discovery, interaction, cater for the unexpected, provide many pathways to explore, give a taste for what happens behind-the-scenes and are fun
- **content** that is challenging, real, authoritative, meaningful, encourages questions and is well-organised and easy to navigate
- **staff** that can relate to young people, are respectful of their ideas and views, are knowledgeable in their field and are easy to talk to
- **opportunities** to socialise, hang out with their friends and learn together.

So then, what’s the difference? In my mind museums are getting better at their physical offerings (although some still have a way to go), it’s the Web 2.0 environment where we are lagging. Given that social media is a great way to fulfil these requirements – it supports learning objectives, is relatively low-cost, is being used by Australians and has a close relationship with the physical – then why hasn’t it been taken up by museums in greater numbers? Matthew MacArthur (2007) writing for the AAM last year identified that **institutional bias** is the most pressing problem in the uptake of Web 2.0 in museums. If this is the case, what can be done?

Some clues come from two sources: first a Harvard Business Review article interview with Mitchell Baker, chair and former CEO of Mozilla who created the open source web interface...
Firefox (Mendonca & Sutton, 2008). The other is a post sourced from the Gurteen Knowledge Website about the skills that knowledge workers will need in the future (which I have also put on my Audience Research blog http://amarclk.blogspot.com).

In reflecting on these, I suggest that an organisation that can embrace a Museum 3.0 mindset through new approaches to working has these elements:

- is prepared to let go
- takes risks
- gives people permission to go for it, then learns from that
- encourages connections and networks
- provides scaffolding and support that others can work from – we don’t always need to innovate ourselves, others can use our material and do it instead
- acknowledges that a healthy community will self-monitor and self-correct
- remembers that some areas will still need “discipline” and organisational input, yet many more need participation.

Overall, as one of my Museum colleagues, Russ Weakley, states: working 20% differently, not 20% more.

To finish, Mike Ellis and Brian Kelly stated ‘Web 2.0 puts users and not the organisation at the centre of the equation. This is threatening, but also exciting in that it has the potential to lead to richer content, a more personal experience’ (Ellis & Kelly, 2007). Many years ago now, Stephen Weil stated that museums need to transform themselves from ‘… being about something to being for somebody’ (p.229, emphasis in original). In my view, social media provides the perfect vehicle to take this further, as I heard from Kevin Von Appen on Wednesday the museums being about doing things with somebody.

In his AAM piece MacArthur (2007) also asked Can museums allow on-line users to become participants? My challenge to us today is to turn MacArthur’s question around and suggest this proposition: Museum 3.0 will enable all users to become participants wherever they are and however they choose. My final question, then, is this: how will we get there?
References


